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SPACE GATEWAY SUPPORT (SGS) **SGS-09 90 00.00 99 (April 2006)**

Preparing Activity: SGS-DE **Superseding SGS-09920J (February 2005)**

SGS GUIDE SPECIFICATIONS

References are NOT in Agreement with UMRL dated 01 April 2006

Revised throughout - changes not indicated by CHG tags
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SECTION 09 90 00.00 99

PAINTING AND COATING
04/06

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NOTE: This guide specification covers the requirements for surface preparation, priming and painting in a severe coastal environment.

Brackets are used in the text to indicate designer choices or locations where text must be supplied by the designer.
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PART 1 GENERAL

1.1 SUMMARY

This project is located in a severe coastal environment. Surface preparation, priming and painting requirements may exceed what is normally anticipated for coating application.

Lead-based paint(LBP) will be encountered in the course of this paint contract. See specification SGS Section 01 11 00.00 99 SUMMARY OF WORK and Section 02 83 00.00 99 LEAD REMEDIATION.

An unconditional 5 year warranty is required by this specification. See paragraph 1.9, Warranty.

Asbestos containing materials may be encountered in the course of this contract. See specification SGS Section 01 11 00.00 99 SUMMARY OF WORK and Section 02 82 13.00 99 ASBESTOS ABATEMENT.

When painting exterior/interior surfaces, ensure that no detection devices, sprinkler heads, pull stations, audible warning devices, gates, valves, fire or life safety devices, etc. are painted, blocked or covered in any fashion.

Use no ozone depleting materials on this project.

Conform to ASTM D 16 for interpretation of terms used in this specification.

Provide a copy of each of the following references to the Government: ASTM A 123/A 123M, ASTM A 276/A 276M, ASTM A 312/A 312M, ASTM B 209/B 209M,

ASTM B 370, ASTM C 33, ASTM C 150, ASTM C 91, ASTM C 206, ASTM C 207, ASTM C 882, ASTM C 847, ASTM C 897, ASTM C 926, ASTM D 16, SSPC SP 1, SSPC SP 2, SSPC SP 3, SSPC SP 6, SSPC SP 11, SSPC SP 12, SSPC PA 1 and SSPC PA 2.

1.2 COATING MAINTENANCE WORK

Prepare surface and field application of exterior and interior paints and coatings with manufacturer/applicator (M/A) 5 year full unconditional warranty for labor and material.

Water blast old coatings, abrasive blast, wire brush, wash, degrease, clean hand/power tools, sand, and perform other requirements necessary to adequately prepare a suitably smooth and homogeneous surface upon which to apply new coatings. If salt spray contaminates surface after washing, additional washing is required before coating.

Restore damaged masonry surfaces.

Restore concrete surface blemishes.

Restore stucco, plaster and gypsum board surfaces.

Repaint mortar joints.

Remove and dispose of LBP, as well as test paint debris for total leachable metal content routinely in the course of surface preparation necessary for recoating.

Surfaces coated with asbestos containing materials are noted on the contract drawings and are not to be painted. Asbestos containing material may be encountered during the repair process such as in roofing felt disturbed during gravel stop repair. Notify the Contracting Officer for further direction if it will be disturbed.

Prime and paint properly prepared/repaired surfaces.

If work fails acceptance at any stage of inspection, rework at no additional cost to the Government.

Repair doors and windows as delineated on drawings or as required after preparation.

Remove signs prior to painting and remount signs after final painting acceptance.

1.3 REFERENCES

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NOTE: This paragraph is used to list the publications cited in the text of the guide specification. The publications are referred to in the text by basic designation only and listed in this paragraph by organization, designation, date, and title.

Use the Reference Wizard's Check Reference feature when you add a RID outside of the Section's Reference Article to automatically place the

reference in the Reference Article. Also use the Reference Wizard's Check Reference feature to update the issue dates.

References not used in the text will automatically be deleted from this section of the project specification when you choose to reconcile references in the publish print process.

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The publications listed below form a part of this section to the extent referenced:

ASTM INTERNATIONAL (ASTM)

ASTM A 123/A 123M	(2002) Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products
ASTM A 276/A 276M	(2004) Standard Specification for Stainless Steel Bars and Shapes
ASTM A 312/A 312M	(2004b)Standard Specification for Seamless, Welded, and Heavily Cold Worked Austenitic Stainless Steel Pipes
ASTM B 209/B 209M	(2004) Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate
ASTM B 370	(2003) Standard Specifications for Copper Sheet and Strip for Building Construction
ASTM C 150	(2002ae1) Standard Specification for Portland Cement
ASTM C 206	(1984; R 1997) Finishing Hydrated Lime
ASTM C 207	(1991; R 1997) Hydrated Lime for Masonry Purposes
ASTM C 33	(2003) Standard Specification for Concrete Aggregates
ASTM C 847	(1995; R 2000) Metal Lath
ASTM C 882	(1991; R 1999) Standard Test Method for Bond Strength of Epoxy-Resin Systems Used With Concrete By Slant Shear
ASTM C 897	(2000) Aggregate for Job-Mixed Portland Cement-Based Plasters
ASTM C 91	(2001) Masonry Cement
ASTM C 926	(1998a) Application of Portland Cement-Based Plaster
ASTM D 16	(2001; R 2003) Standard Terminology for Paint, Related Coatings, Materials, and

Applications

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)

NFPA 30	(2000) Flammable and Combustible Liquids Code

THE SOCIETY FOR PROTECTIVE COATINGS (SSPC)

SSPC PA 1	(2000) Shop, Field, and Maintenance of Painting
SSPC PA 2	(1996) Measurement of Dry Coating Thickness With Magnetic Gages
SSPC SP 1	(1982; R 2000) Solvent Cleaning
SSPC SP 11	(1987; R 2000) Power Tool Cleaning to Bare Metal
SSPC SP 12	(1995) Surface Preparation and Cleaning of Steel and Other Hard Materials by High-and Ultra high-Pressure Water Jetting Prior to Recoating
SSPC SP 2	(1982; R 2000) Hand Tool Cleaning
SSPC SP 3	(1982; R 2000) Power Tool Cleaning
SSPC SP 6	(2000) Commercial Blast Cleaning

1.4 SUBMITTALS

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NOTE: Review submittal description (SD) definitions in Section 01 33 00 SUBMITTAL PROCEDURES and edit the following list to reflect only the submittals required for the project. Submittals should be kept to the minimum required for adequate quality control. Include a columnar list of appropriate products and tests beneath each submittal description.

A "G" following a submittal item indicates that the submittal requires Government approval. Some submittals are already marked with a "G". Only delete an existing "G" if the submittal item is not complex and can be reviewed through the Contractor's Quality Control system. Only add a "G" if the submittal is sufficiently important or complex in context of the project.

For submittals requiring Government approval on Army projects, a code of up to three characters within the submittal tags may be used following the "G" designation to indicate the approving authority. Codes for Army projects using the Resident Management System (RMS) are: "AE" for Architect-Engineer; "DO" for District Office

(Engineering Division or other organization in the District Office); "AO" for Area Office; "RO" for Resident Office; and "PO" for Project Office. Codes following the "G" typically are not used for Navy, Air Force, and NASA projects.

Submittal items not designated with a "G" are considered as being for information only for Army projects and for Contractor Quality Control approval for Navy, Air Force, and NASA projects.

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The following shall be submitted in accordance with Section 01 33 00 SUBMITTAL PROCEDURES in sufficient detail to show full compliance with the specification:

SD-03 Product Data

Provide surface preparation and installation data on all products specified herein, product standards, physical and chemical characteristics, technical specifications, limitations, maintenance instructions, and general recommendations.

SD-04 Samples

Submit samples of each coating product, including manufacturer's proposed colors and finishes. See paragraph 5.0 for preselected colors.

Submit samples(6" x 6" minimum) illustrating selected colors and finishes for each color.

SD-06 Test Reports

Detailed report maintained by the inspector including items mentioned in, but not limited to, the Project Engineer's compiled maintenance specification. This report must be available for inspection at any time by the Contracting Officer. Submit in-progress copies on a monthly basis. Submit two final copies with warranty upon final acceptance of each facility.

SD-08 Manufacturer's Instructions

Indicate special surface preparation procedures and substrate conditions requiring special attention. Provide manufacturer's instructions used in repairs.

1.5 QUALIFICATIONS

Manufacturer: Company specializing in manufacturing the products specified herein with a minimum 5 years documented experience in coatings formulation.

On-site independent inspector.

Applicator: Company specializing in performing the work of this section with a minimum of 3 years documented experience.

1.6 DELIVERY, STORAGE AND HANDLING OF PAINT PRODUCTS

Deliver, store, protect and handle products to site under provisions of the manufacturer and this section.

Deliver products to site in sealed and labeled containers; inspect to verify acceptability.

Ensure container label includes manufacturer's name, type or paint, brand name, lot number, brand code, coverage, surface preparation, drying time, cleanup requirements, color designation and instructions for mixing and reducing.

Store paint materials at minimum ambient temperatures of 45°F and a maximum of 90°F in a ventilated area, and as required by manufacturer's instructions.

Comply with manufacturer's instructions for storage, shelf life limitations, and handling.

1.7 ENVIRONMENTAL REQUIREMENTS

Do not apply material when surface and ambient temperatures are outside the temperature ranges required by the paint product manufacturer.

Do not apply exterior coatings during precipitation events, when surfaces are damp from wind-driven mist or condensate, or when relative humidity is outside the humidity ranges required by paint product manufacturer.

Ensure minimum application temperatures for latex paints is 50°F.

Take precautionary measures to prevent fire hazards and spontaneous combustion.

Do not lay masonry, repair concrete or stucco, repaint, caulk or seal, wash down, or wet surfaces when temperature may drop below 40°F within 24 hours.

Remove and dispose of LBP in accordance with Section 02 83 13.00 20 LEAD IN CONSTRUCTION.

Collect, contain, and label all paint chips and dust, abrasive blasting media, and any other contaminated residue for off-site disposal. Manage and dispose of waste in accordance with SGS Section 02 82 33.13 20 REMOVAL/CONTROL AND DISPOSAL OF PAINT WITH LEAD under the Contractor's EPA identification number.

Spray painting is not allowed. Accomplish all spray painting before delivery to the job site. Only brush and roller application will be allowed at the job site.

1.8 SEQUENCING/SCHEDULING

Provide schedules to the Contracting Officer in accordance with specification SGS Section 02 83 00.00 99 LEAD REMEDIATION.

Sequence work such that the specifications of each section are met, but in no case shall more than ten buildings be worked on at one time. Ensure manufacturer's representative signs off accepting work and prepares detailed warranty for each building.

Clean surface in accordance with specifications

Inspect for damage and repair

Apply coating system in accordance with specifications

Submit detailed warranty documents prior to application for payment

Detailed scheduling as described in SGS Section 02 82 33.13 20 REMOVAL/CONTROL AND DISPOSAL OF PAINT WITH LEAD will be based on the priority order established by the Contracting Officer on delivery orders.

1.9 WARRANTY

This specification requires a mandatory warranty by the coating manufacturer and Contract Applicator for full coverage on a 5 year unconditional basis. Warranty shall be on a per building basis. The sole remedy for failure of this warranty is rework of the coating system to the level which it was warranted from in accordance with the satisfaction of the Contracting Officer. In the event of a failure, the M/A will immediately mobilize, when notified by the Contracting Officer, to rework the job circumventing delays due to inferior condition of substrate, the Applicator will notify the Contracting Officer prior to complete documentation of this element in detail on the Warranty will be given the opportunity to repair such conditions prior to preparation and painting. It is the intent of the Government that no cost or burden of any kind will be incurred by the Government for the warranty period as it relates to the exterior/interior coating systems, for 5 years for the time of warranty issue for coatings, provide and applied under this contract.

PART 2 PRODUCTS

2.1 COATING MANUFACTURERS

Subject to compliance with requirements, provide the M/A data and 5 year unconditional warranty covering material, surface preparation, and application noting detailed exceptions, if any, prior to application for payment.

Refer to paragraph 5.0 Coating Systems, for both the "EXTERIOR PAINTING", SGS Section 09 91 13.00 99 and EXTERIOR PAINTING, SGS Section 09 91 23.00 00 INTERIOR PAINTING for approved products lists. Products of other manufacturers may be accepted if the physical properties such as volume solids, resin content, and volatile organic compounds(VOC) are approximate to the approved products. Data sheets must provide ASTM testing results.

2.2 MATERIALS

Use paints from original, sealed unbroken containers that indicate the designated name, formula or specification number, batch number, manufacturer's recommendations for use and thinning, date of manufacture, and contract number, all of which are to be legibly printed on the container. Furnish paints in containers no larger than 5 gallons.

Prior to the delivery of materials for approval, furnish certification by the supplier to the Contracting Officer that materials comply with the specifications. Have materials inspected by the Contracting Officer after delivery to ensure proper packing, storing and compliance with all other

similar requirements as specified herein.

2.3 EMISSION LIMITING STANDARDS

No manufacturer, distributor or applicator of the field-applied coatings as specified herein shall cause, allow or permit the discharge into the atmosphere of any VOC in excess of 3.5 pounds per gallon of coating, excluding water. All VOC emissions from solvent washings shall be considered in the emissions limitations as required by this specification.

PART 3 EXECUTION

3.1 GENERAL SURFACE PREPARATION INFORMATION

Completely remove all loose, cracked, blistered and non-tightly adhering paint.

Ensure that paint edges have sufficient adhesion so that the paint cannot be lifted as a layer by the insertion of the corner of a sharp putty knife beneath it.

Sand or feather edges of old paint so that the repainted surface has a smooth appearance.

Sand all glossy surfaces and gloss enamels to satisfactorily remove glaze for proper paint adherence.

Remove all rust, mill scale, deteriorated paint, and any other foreign matter on ferrous surfaces such as ladders, brackets, pipes, etc.

Follow specific surface preparation requirements as directed by the Project Engineer and referenced in paragraph 3.0, "Surface Preparation Methods" for both SGS Section 09 91 13.00 99 EXTERIOR PAINTING and SGS Section 09 91 23.00 99 INTERIOR PAINTING.

Coat prepared surfaces within 6 hours after completion of surface preparation and before rusting or recontamination occurs. Surfaces not coated within 6 hours or which show rusting or contamination, regardless of the length of time after preparation, shall be re-prepared.

Sequence surface preparation and coating operations so that freshly applied coatings will not be contaminated by dust or foreign matter.

Prepare surface in contract work area containing LBP. Provide work areas where surface preparation will be conducted by abrasive blasting or mechanical cleaning with containment or enclosures to allow collection of all contaminated residue(see SGS Section 02 83 00.00 99 LEAD REMEDIATION and 02 82 13.00 99 ASBESTOS ABATEMENT). Respiratory protection must be provided for workers during surface preparation.

Perform all abrasive blasting operations within containment-inspected areas and approved by the Inspector to ensure adequate protection.

Maintain minimum nozzle pressure of 90 pounds psi during abrasive blasting.

Ensure during blasting operations that blasters wear air-supplied helmets and all other persons who are exposed to blasting dust wear HEPA filter-type respirators and safety goggles(except where lead exposures require additional protection.

Remove weld, slag, weld splatter and foreign matter from surfaces to be coated prior to abrasive blasting using mechanical methods in accordance with SSPC SP 3.

Remove rust and corrosion from pits and depressions.

Do not reuse abrasive blast aggregate.

Remove all traces of abrasive residue and dust from the surface, leaving it clean and dry.

3.2 GENERAL SUBSTRATE REPAIR/REPLACEMENT INFORMATION

Follow specific surface preparation requirements as directed by the Project Engineer and referenced in paragraph 4.0, "Surface Preparation Methods", for both the SGS Section 09 91 13.00 99 and EXTERIOR PAINTING Section 09 91 23.00 99 INTERIOR PAINTING.

3.3 GENERAL COATING INFORMATION

It is the intent of these specifications that a thorough painting of only previously coated surfaces be accomplished. Give special attention to areas and surfaces that might be overlooked and paint materials exhibiting deterioration which have not been previously painted as directed by the Contracting Officer or representative.

Paint Color Scheme

Refer to color selection keyed to Facility Excell Procedure(FEP).

Surfaces Not To Be Painted

Do not paint unpainted or prefinished items such as the following, unless directed by the Contracting Officer:

a. Radar enclosures
b. Grills/vents
c. Window frames
d. Doors
e. Factory-finished surfaces(unless specifically included)
f. Translucent panels
g. Glass or lenses
h. Photosensitive switches for exterior lights
i. Presently unpainted copper, chrome, aluminum and aluminum-alloy surfaces
j. Stainless steel
k. All floors(unless previously painted; use approved non-lead, traffic-topping coatings only for previously painted floors)
l. Ceramic tile, structural glazed facing tile, plastic laminate, and similar surfaces
m. Other surfaces as may be specified or noted on the drawings or by the Contracting Officer
n. Fire alarm pullboxes, heat-actuating devices, hose cabinets or other fire protection devices
o. Sprinkler heads
p. Special status displays and similar information boards
q. Antennas; radio frequency and microwave

Ensure when painting exterior/interior surfaces that no detection devices, sprinkler heads, pull stations, audible warning devices, gates, valves, fire or life safety devices, etc. are painted or covered in any fashion.

3.4 GENERAL PAINT APPLICATION

Follow the coating application requirements referenced in paragraph 5.0, "Coating Systems", for both SGS Section 09 91 13.00 99 and EXTERIOR PAINTINGS Section 09 91 23.00 99 INTERIOR PAINTING.

Limit application to brush or roller. However, conventional or airless spray application will be permitted if approved containment is implemented. This spray containment must be inspected and approved by the Inspector prior to spray application. Apply block filler seal caot by brush or roller only. Apply all spot primer by brush and roller.

Ensure finished surfaces are free from runs, ridges, waves, laps, brush marks, and variations in color, texture, and finish. Apply each coat so as to produce a film of uniform thickness, in accordance with the dry film thickness established in paragraph 5.0, "Coating Systems", of both the SGS Section 09 91 13.00 99 EXTERIOR PAINTING and SectIon 09 91 23.00 99 INTERIOR PAINTING.

Use drop cloths and other suitable protection to prevent spotting, smearing and any other damage to adjacent surfaces or furnishings.

Display WET PAINT signs where applicable and remove after paint has dried.

At the time of application, use paint showing no signs of deterioration. Thoroughly stir and strain paint prior to use and maintain at a uniform consistency during use. Where necessary to suit conditions of surface temperature, weather and method of application, thin packaged paint immediately prior to applicaiton in accordance with the Inspector/Manufacturer's directions. The use of thinner is no excuse for not obtaining complete hiding. Do not this block filler.

Apply paint only to surfaces that are completely free of surface moisture as determined by Inspector. Do not paint during damp or rainy weather or when unfavorable weather is forecast within critical curing time.

Test previously painted surfaces with paint to determine compatibility with the existing finish. Allow no lifing or bleed-through.

3.5 GENERAL COATING MAINTENANCE AND INSPECTION SEQUENCE

Prior to start of surface preparation, obtain inspection and approval(grease/oil verification).

Prior to application of primer; obtain inspection and approval of proper surface preparation and substrate repair/replacement.

Prior to midcoat or first topcoat application, obtain inspection and approval for proper application of primer.

Prior to final topcoat application, obtain inspection and approval for proper midcoat or first topcoat application.

Obtain inspection and approval for final topcoat application.

Preform rework as necessary.

3.6 CLEANUP AND SAFETY GENERAL INFORMATION

Place all clothes and cotton waste in closed metal containers or destroy at the end of each day. Upon completion of work in each area, remove all staging, scaffolding and containers and leave all areas clean and acceptable. Dispose of waste materials and containers in accordance with all Federal, State and Local regulations.

Keep all packages containing paints, varnishes, lacquers, thinners or other volatile painting materials tightly closed when not in actual use and store them in accordance with the current recommendations of NFPA 30.

Keep unopened containers of paints, varnishes, lacquers, thinners and other flammable materials in a well-ventilated location, free of excessive heat, smoke, sparks, flames and direct rays of the sun.

Store paint-soiled clothing and drop cloths(when not in use) in well-ventilated steel cabinets.

Remove paint scrapings and paint-saturated debris and general construction debris daily from premises.

In areas of painting operations, do not allow smoking, open flames, exposed heating elements, or other sources of ignition to occur.

Wear fall-protective equipment when working 6 feet or more above ground level and on unprotected scaffolds, platforms, or roofs of buildings.

Do not store painting material on roofs and inside rooms being painted.

It is essential that the solvent vapors released during and after application of coatings be removed from the work area. During coating application inside confined spaces, small rooms, and containment areas, the capacity of ventilating fans shall be at least 300 cubic feet per minute(cfm)per gallon of coating applied per hour. Provide continuous forced ventilation at a rate of at least one complete air change every 4 hours for at least 48 hours after coating application is completed or until coating is completely cured in accordance wilth the paint manufacturer's recommendations.

-- End of Section --